

Work Order ID 152913

Monday, November 07, 2016 4:06:31 PM

152913

Page 1

Item ID: D4034-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Upper Rib Assembly
 Start Date: 11/28/2016 Start Qty: 2.00 ***2*** **DAS 21 9-89** Cust Item ID:
 Required Date: 11/30/2016 Req'd Qty: 2.00 ***2*** 4 Customer:
 Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **NOV 04 2016** Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4034	C								

100 Weld per dwg A/R S.S. rod Batch: **133989** 0.00

100

Large Fab Memo 0.11
 Large Fab 1- Assemble ribs to hoop and weld as per dwg DT9564
 2- Weld bushing in rib as per dwg

4 **16-12-21**

110 QC9- Inspect visual per QSI004- Fusion Welds 0.00

110

QC Memo 0.00
 Quality Control

4x **DAS 43 9-89** **DEC 2 2 2016**

120 QC5- Inspect part completeness to step on W/O 0.00

120

QC Memo 0.01
 Quality Control

4x **DAS 43 9-89** **DEC 2 2 2016**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

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Page 2

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 Start Date: 11/28/2016 Start Qty: 2.00 ***2*4** Cust Item ID:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: WVA 04	0.00							
130									
Packaging	Memo	0.00				4x		DAS 43	DEC 22 2016
Packaging	LOCATION: WA004							9-89	
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.03					DAS 21		DEC 22 2016
Quality Control							9-89		

DAS 21
9-89
DEC 22 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, November 07, 2016 4:06:30 PM

Page 1

Work Order ID: 152913

152913

Parent Item: D4034-043

D4034-043

Parent Item Name: Fwd Upper Rib Assembly

Start Date: 11/28/2016

Required Date: 11/30/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP RevA: new issue DD 09.11.23 verified by:EC IPP Rev:B as
per dwg revA 10.03.15 verified by:EC IPP Rev:C 11.01.19 AS
PER DWG REV.B DD VERF:EC IPP Rev:D 13.03.14 AS PER DWG
REV.pc1 DD VERF:JLM IPP REV:E 13.06.21 DWG REV.C DD
VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
✓ D4021-7 *D4021-7* Hoop		Manufactured	No			100	Each	0.0000	1	2			
										4		16-12-20	
✓ D4021-9 *D4021-9* Bushing		Manufactured	No			100	Each	24.0000	4	8			
										16		16-12-20	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA004		24							
					145800	3							
					147436	21							
✓ D4034-1 *D4034-1* Rib		Manufactured	No			100	Each	20.0000	1	2			
										4		16-12-20	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA004		20							
					152155	12							
					152156	8							
✓ D4034-3 *D4034-3* Rib		Manufactured	No			100	Each	1.0000	1	2			
										4		16-12-20	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA004		1							
					150384	1							

~~B150386~~

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

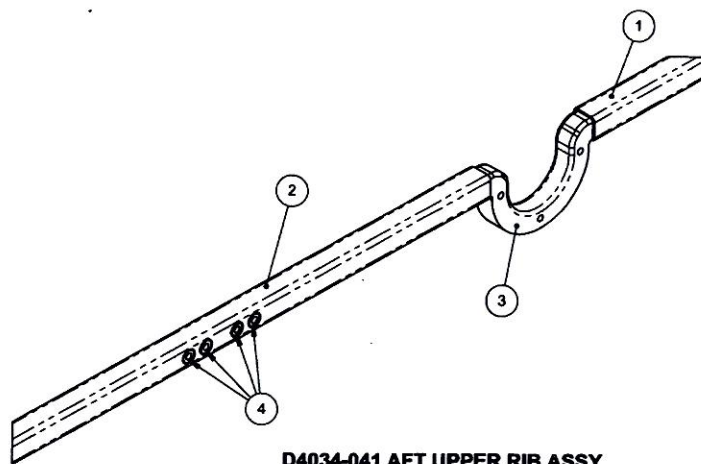


QA Closed: _____ Date: _____

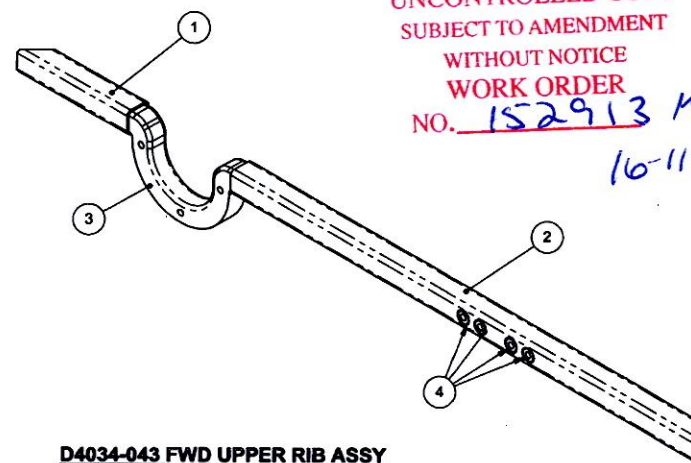
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

ITEM	QTY -041	QTY -043	P/N	DESCRIPTION
	X		D4034-041	AFT UPPER RIB ASSY
		X	D4034-043	FWD UPPER RIB ASSY
1	1	1	D4034-1	RIB
2	1	1	D4034-3	RIB
3	1	1	D4021-7	HOOP
4	4	4	D4021-9	BUSHING



D4034-041 AFT UPPER RIB ASSY



D4034-043 FWD UPPER RIB ASSY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 152913 MJS
16-11-09

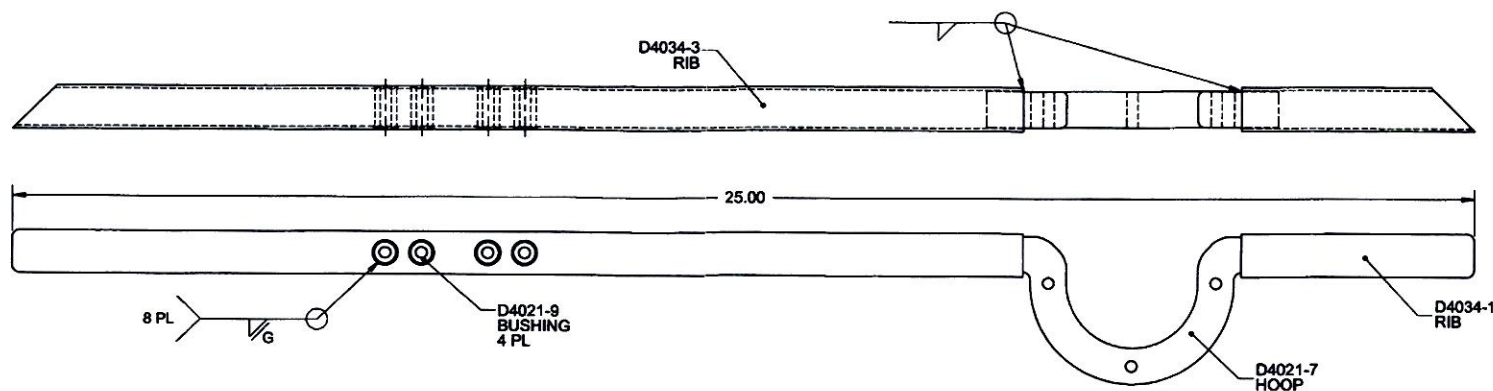
RELEASED
2013-06-20
AM

C	-043 REDESIGNED AS MIRROR IMAGE OF -041. -5 DELETED. D2327-3 DELETED. REASON PROP ARM NO LONGER OFFERED.	AJS	13.03.13
B	ADDITIONAL HOLES ADDED ON D4034-3 RIB	SC	10.12.20
A	NEW ISSUE	AJS	10.03.04
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4034 TITLE UPPER RIB ASSY, BASKET BASE COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	AJS		
CHECKED	A.P.		
MFG. APPR.	IS		
APPROVED	12		
DE APPR.	12	REV. C SHEET 1 OF 3 SCALE NTS	
DATE	13.03.13		

8 7 6 5 4 3 2 1

D

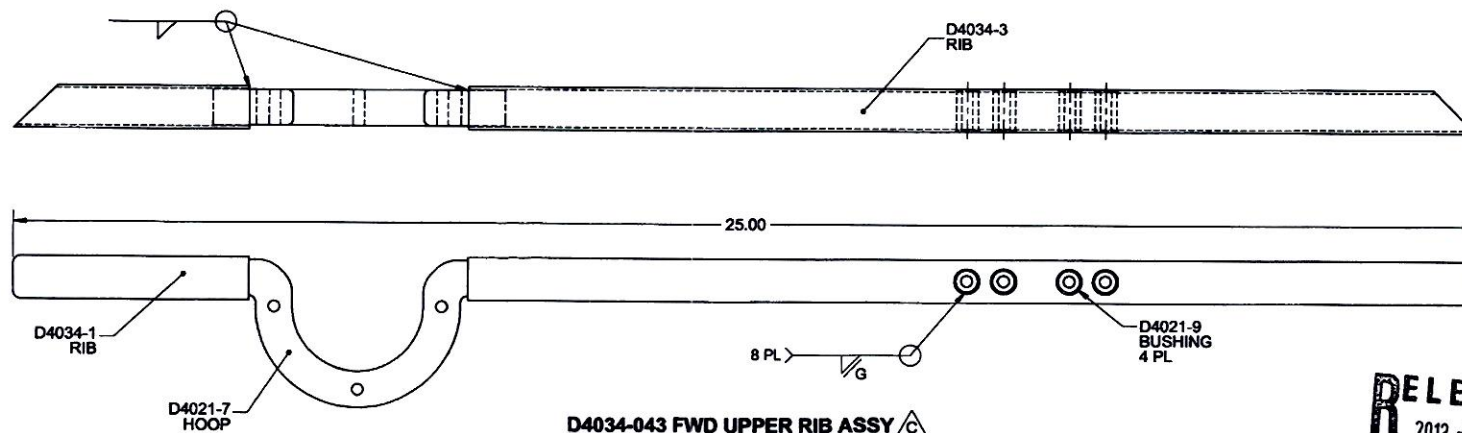
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D4034-041 AFT UPPER RIB ASSY

C

C



D4034-043 FWD UPPER RIB ASSY

B

B

A

A

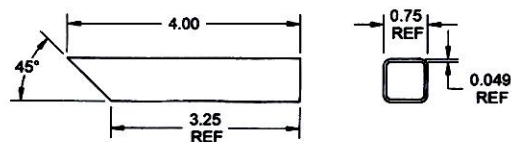
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.61 lbs
- 8) WELD PER DART QSI 004

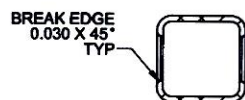
RELEASED
2013-06-20

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. C
MFG. APPR.	NS	D4034	SHEET 2 OF 3
APPROVED	NS	TITLE	SCALE
DE APPR.	NS	UPPER RIB ASSY, BASKET BASE	NTS
DATE	13.03.13	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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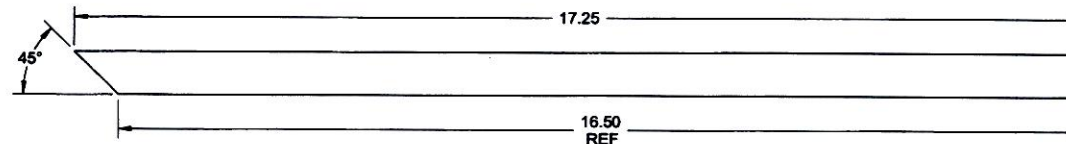
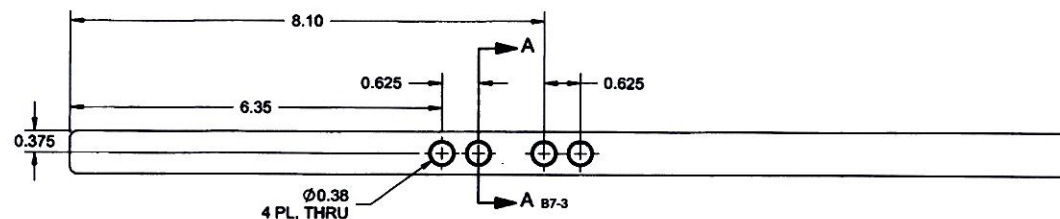
8 7 6 5 4 3 2 1



D4034-1 RIB



SECTION A-A C3-3



D4034-3 RIB

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL
REF DART SPEC. M304TS0.750W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT -1: 0.13 lbs
-3: 0.62 lbs

RELEASED
2013-06-28

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. C SHEET 3 OF 3
DRAWN	AJS		
CHECKED	AP	DRAWING NO. D4034	SCALE
MFG. APPR.	AS	TITLE UPPER RIB ASSY, BASKET BASE	NTS
APPROVED	AP	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DE APPR.	AP	DATE 13.03.13	